School of Geology, with a success which is fully proved by the high position which that school now occupies.

Hughes's life-work may be conveniently regarded under two heads: his original work in geology and archæology, and his labours in connection with the Cambridge School. The greater part of his geological researches was carried out during his period of service on the Geological Survey and the earlier part of that of his occupancy of the Woodwardian chair. The duties of his professorship became heavier as time went on, and the output of geological papers naturally diminished, though it by no means ceased. During this time he found a pleasant relaxation from official work in archæological study, and enriched many archæological journals with contributions of considerable interest and value, many of which dealt with the antiquities of the Cambridge district.

His most important geological writings were concerned with some of the earliest and the latest deposits. He took a prominent part in the establishment of the pre-Cambrian age of certain rocks of North and South Wales, and wrote much of value concerning the Lower Palæozoic rocks of the Principality and of the borders of Lakeland. He was greatly attracted by the many vexed questions connected with the Glacial and post-Glacial deposits, especially those bearing upon the problem of the antiquity of man: here, also, he added much to our knowledge.

The value of Hughes's work was gracefully recognised by Sir Archibald Geikie when, as president of the Geological Society, he presented Hughes with the Lyell medal in 1891:—"You have not confined yourself . . . to the rocks of any one system or period, but have ranged freely from Archæan gneiss to raised beach, hovering for a moment here and resting a little there, generally critical, almost always suggestive, and with that happy faculty of enthusiasm which, reacting on younger minds, 'allures to older worlds, and leads the way.'"

Turning now to Hughes's work in connection with the Cambridge School of Geology, one was struck by his many qualities making for success. In addition to his scientific attainments, he possessed an acute instinct for judging character, unbounded energy, and an exceptional degree of enthusiasm, which he retained to the end. Not the least of his qualities were those social ones which, causing him to be a favourite among all ranks, were peculiarly valuable when dealing with those with whom he was brought into contact in his official capacity. He exercised a wise control over his department. Using much judgment in the selection of his subordinates, he ever afterwards allowed them a freedom of action which not only ensured a smoothness in the working of the machinery, but also greatly increased its efficiency. Much of the teaching was left to the lecturers and demonstrators, but his own courses were very attractive and highly appreciated. His qualities as a teacher stood out most prominently when conducting field excursions, whether around Cambridge or in other parts of the country. Few gatherings were more delightful than those at his long excursions, and the amount of knowledge acquired by his pupils was great, for Hughes was at his very best on these occasions.

Hughes was very successful in inducing people to take up the study of geology, and was responsible for the addition of many to the ranks of that body which is now becoming all too limited —that of the amateur geologists. To all students alike he was accessible and ever ready with help in the museum and at his home. Here he was greatly aided by his accomplished wife, who died last year. She was the daughter of the Rev. G. F. Weston, Hon. Canon of Carlisle, and was an able geologist and naturalist.

Owing partly to Hughes's own exertions, partly to his persuasive manner, he left the collections in the Sedgwick Museum, already valuable at the time of his election to the professorship, much enriched by his labours. Especially noteworthy is the collection of building stones, marbles, etc., brought together by Mr. John Watson, M.A., through the professor's influence, for he was fully aware of the importance which economic geology must assume in university study. Not only did he add largely to the collections, but, after many delays, he had the satisfaction of seeing them housed in the magnificent Sedgwick Museum, which, largely owing to his unwearied efforts, was completed and finally opened by King Edward VII. in 1904. Another task which partly fell to him was the writing of the life of his predecessor in office. This was finished in 1891, when "The Life and Letters of the Reverend Adam Sedgwick," by John Willis Clark and Thomas McKenny Hughes, appeared.

For want of space, full notice cannot be taken of his many activities unconnected or only indirectly connected with geology, but mention must be made of his interest in agriculture. He took an active part in the proceedings of the Cambridge and Isle of Ely Chamber of Agriculture, of which he was a past-president.

Some of the positions which Hughes occupied and the honours he received have already been mentioned. In addition, he was a professorial fellow of Clare College, F.R.S., and honorary member of many British and foreign learned societies. He was also a Chevalier of the order SS. Maurice et Lazarus (Italy).

It is interesting to note that Hughes and his predecessor occupied the Woodwardian chair for ninety-nine years.

He leaves three sons, all of whom are serving in the Army. J. E. MARR.

NOTES.

A MEMORIAL tablet, including a medallion portrait of the late Sir William Ramsay, K.C.B., F.R.S., is to be erected in the University of Glasgow, of which he was a graduate and teacher. The University Court has arranged that the memorial, which is designed by Sir John J. Burnet, shall be placed in a conspicuous position at the entrance to the Bute Hall.

In order to promote the further development of the dye-making industry in the United Kingdom, the President of the Board of Trade has decided to establish a special temporary department of the Board of Trade to deal with matters relating to the encouragement, organisation, and, so far as necessary, the regulation of that industry. The department will be under the direction of Sir Evan Jones, Bart., who has placed his services at the disposal of the President, and will have the official title of Commissioner for Dyes. The Commissioner will act in close consultation with the various dye-making and dye-using interests concerned. Any communications on the subject should be addressed to:—Commissioner for Dyes, Board of Trade, 7 Whitehall Gardens, London, S.W.1.

We learn from the *Scientific Monthly* that the Council of National Defence and the U.S. National Research Council have sent six American men of science to England and France to study problems arising out of the war. Members of the party and the subjects in which they will specialise are:—Dr. J. S. Ames, Johns Hopkins University, aeronautical conditions; Dr. R. P. Strong, Harvard University, and Dr. L. R. Williams, assistant health commissioner of New York State, health and sanitation; G. A. Hulett, Princeton University, chemistry of explosives; Dr. H. F. Reid, Johns Hopkins University, scientific map-making and photography from aeroplanes; and Dr. G. R. Burgess, of the Federal Bureau of Standards, metals suitable for guns and rigid dirigibles.

As a result of a long series of experiments an important use for horse-chestnuts has been found in connection with the war, one of the principal results of which will be the liberation of a large quantity of maize hitherto used for another purpose. An appeal has been issued by the Food (War) Committee of the Royal Society for the systematic collection of horse-chestnut seeds during the forthcoming season. It is estimated that every ton of chestnuts collected will be equivalent to half a ton of maize, so that the careful collection of all the available supplies becomes a matter of vital importance. Any quantity up to 17,000 tons of chestnuts per week can be used. An organisation for the collection and transport of this hitherto waste product is being perfected, details of which will be announced later. The work of collecting is one in which many people can render service, as the trees are so universally grown, and gathering the nuts is a matter of no difficulty. Owing to the fine weather during the blossoming time, there is every prospect this year of a heavy crop of chestnuts.

The President of the Board of Agriculture and Fisheries has appointed an Advisory Committee to consider and report upon technical questions of poultry management and feeding, both in general and in detail, and on general questions of the organisation of the poultry industry, with the view of securing that the readjustment of the industry to war conditions shall be made in the most approved manner. The committee is constituted as follows:—Mr. T. W. Toovey (chairman), National Utility Poultry Society; Mr. Gerald Martin, Ministry of Food; Mr. P. A. Francis, Board of Agriculture for Scotland; Mr. Wilfred Buckley, Agricultural Organisation Society; Mr. Tom Barron, National Utility Poultry Society; Mr. W. G. Tarbet, Utility Duck Club; Mr. Tom Newman, Scientific Poultry Breeders' Society; Mr. C. Longbottom, Northern Utility Poultry Society; Mr. F. M. Youngman, J.P., Framlingham and Eastern Counties Egg and Poultry Co-operative Society; and Mr. G. Tyrwhitt Drake, Poultry Club; also a representative, when required, of the Poultry Research Society. The secretary is Mr. J. R. Jackson, Board of Agriculture and Fisheries, 4 Whitehall Place, S.W.1.

The Edison medal of the American Institution of Electrical Engineers has been awarded to Mr. Nikola Tesla, for early original work in polyphase and high-frequency electric currents.

According to notices in the French Press, the Société des Mines de la Loire has just started the first of two electric furnaces of 500 kilowatts for the manufacture of synthetic pig-iron, utilising current from its own generating station.

Applications are invited for the Dr. Jessie Macgregor prize for medical science of the Royal College of Physicians, Edinburgh. The prize is of the value of about 75*l.*, and is awarded triennially for the best record of original work in the science of medicine. Candidates for the prize must send their applications before July 23 next.

With reference to a paragraph which appeared in Nature of June 14 (p. 312), the (Italian) General Council of Limited Liability Companies has considered the proposal of the Scientifico-Technical Committee as regards contributions by manufacturers towards the scheme for improving science laboratories in Italy. The manufacturers present at the meeting decided unanimously on an annual grant of 25,000 lire for the object mentioned.

Dr. H. R. Mill records, in the *Times* of June 19, that the thunderstorm between 5 and 7 p.m. (summer time) on Saturday, June 16, was, if measured by rainfall, one of the most severe ever experienced in London. More than 2 in. fell over an area measuring ten miles from Barnes to Finsbury Park and four miles from Hyde Park to Willesden Green. At two points within this area more than 3 in. was reported—viz. 3·20 in. at Campden Hill, Kensington, and 3·37 in. at Barrow Hill, north of Regent's Park. Such falls in a short period have only been exceeded in the London area, so far as Dr. Mill has been able to ascertain, by 3·42 in. at Blackheath on July 23, 1903, and by 3·90 in. at Hampstead on April 10, 1878. On June 23, 1878, Mr. Symons recorded at Camden Square a fall of 3·28 in. in about an hour and a half; on Saturday last the recording gauge showed that 2·86 in. fell in two hours, and no heavier rain has been recorded at Camden Square in the thirty-nine intervening years.

The Geological Survey of Ireland has suffered a further loss in the death of Lieut. Horas T. Kennedy, who was killed on June 6 during the great operations south of Ypres. Lieut. Kennedy was born in London in 1889, but was of Irish parentage. After securing a senior scholarship at Trinity College, Cambridge, and taking a first class in the Natural Science Tripos, he gained, by open competition, the post of Geologist on the Geological Survey of Ireland in 1913. His work lay in the re-examination of the Leinster coalfield, in view of industrial developments in that district. He was also about to undertake the revision of certain Silurian strata in western Ireland, where he would undoubtedly have shown his powers of original research; but he obtained a commission in the North Staffordshire Regiment when war broke out, and was transferred later to the Royal Scots Fusiliers During a short period of leave in the autumn of 1916, he married the second daughter of the Very Rev. C. T. Ovenden, Dean of St. Patrick's, Dublin. His scientific training led to his being attached to the Royal Engineers at the close of that year. He was keenly looking forward to a return to work in his own country at the conclusion of the war, and the loss of his helpful comradeship is deeply felt by his colleagues on the Survey staff.

The death occurred at Leeds, on June 7, at fifty-nine years of age, of Mr. Samuel Margerison, a well-known Yorkshire botanist and authority on afforestation. Mr. Margerison did valuable work as a member of the Yorkshire Botanical Survey Committee of the Yorkshire Naturalists' Union, and being an enthusiastic and skilful gardener, he was for some time a prominent and active member of the North of England Horticultural Society. As an expert in afforestation, his advice and help were frequently sought by various local authorities, and he had given expert assistance to the Leeds Corporation Waterworks Committee in its scheme for the afforestation of the Washburn Valley, near Otley. At the Bradford meeting of the British Association in 1901 he read an interesting paper on British sylviculture, in which he pointed out the great importance of maintaining an adequate supply of native timbers. He directed attention especially to the fact that although the natural conditions in this country are not less favourable, the comparison of the results of Continental sylviculture with ours shows that our management is generally inferior, and our forests much less productive. He emphasised strongly the need, in this country, of a sound and effective training in scientific forestry, with adequate practical and scientific equipment, worthy of the subject and of its importance as a national industry.

Botanists will learn with deep regret of the death on May 29 of Dr. Sarah M. Baker at the early age of twenty-nine. Dr. Baker was a student of University College, London, from 1905. She graduated in science (chemistry and botany) in 1909, and proceeded to the D.Sc. in 1913. For five years she had held the position of Quain student in the department of botany, and was shortly to have been appointed to a new lectureship specially created for her. The investigations which she completed in a relatively short period of activity tend to emphasise the loss which science has sustained. Her paper entitled "Quantitative Experiments on the Effect of Formaldehyde on Living Plants" (1913) shows her mastery of biochemical technique, and may serve as a model of what such an investigation should be. It was in connection with this work that Dr. Baker devised the very ingenious automatic waterer whereby the culture-plants could be raised from seed and grown on for long periods without interference of any kind with the progress of the experiment. This contribution was followed by researches on osmotic phenomena, with especial reference to the mechanism of entry and transport of water in plants. Dr. Baker was led to the assumption of both hydro- and aero-permeable regions in roots, the former admitting the nutrient salts, the latter vapour which underwent condensation. Her preliminary paper "On the Liquid Pressure Theory of the Circulation of Sap in Plants," as was to be expected, met with a good deal of criticism. The full paper dealing with this work was only recently completed and will, it may be hoped, be published shortly. In addition to these, there was a series of four papers on the ecology and biology of brown seaweeds, based on field investigations carried out at her father's country cottage at Mersea Island, at Blakeney Point, and elsewhere. The drawings which illustrate some of these are fine examples of line work, deserving of the highest praise. It was characteristic of Dr. Baker to throw herself ardently into whatsoever she undertook. Thus for the purpose of a public lecture recently delivered on vegetable dyes, she worked through the whole chemical basis of the subject, and was not content until she had discovered a number of new dyes by the employment of mordants not previously used. At the time of her death she was investigating critically the bread-making value of a number of substitutes for wheaten flour. Dr. Baker had many interests outside her scientific work, and it is possible that the cumulative draft on her energies may have hastened her death. Her loss will be felt as a personal bereavement by all her colleagues and pupils.

Under the title of "Thirty Years' Work of the Geographical Society" Dr. J. Scott Keltie gives, in the *Geographical Journal* for May, a charming sketch of the earlier "stalwarts," scholars, and explorers who have during that period contributed to the advance of geographical science. He dealt in detail with the most important developments during the last thirty years, and he pointed out the progress made by the society. The membership has increased from 3370 to more than 5000; its income from 8600*l.* to 13,000*l.*; and its library from 20,000 volumes to about 66,000. The want of accommodation for its members and collections has been met by the removal of the headquarters from Savile Row to Lowther Lodge. On the whole this instructive review marks a steady advance in the popularity and influence of this great society, on which the council and its officers deserve warm congratulations.

In *Folk-lore*, vol. xxviii., No. 1, for March last Dr. R. R. Marett, who has done admirable work in guiding the Folk-lore Society during the inevitable difficulties resulting from the war, devoted his presidential address to a review of two pioneers of the society's work who have recently passed away—Sir E. Tylor and Sir L. Gomme. He pointed out that these two scholars, working on somewhat different lines, aimed at the same object, and that their work was in a true sense complementary. He contrasted the two phases of thought, the ethnological and evolutionary schools, which now occupy the field. He showed that the problem of culture-contact in its varied forms is now of primary importance, particularly in its bearing on the origin of the folk-tale. He suggests an eirenicon between the "diffusionist" and the "casualist" schools, the one advocating the origin of tales from a single centre, the other fixing its attention on survivals in custom, belief, and ritual which appear as incidents in the stories.

Miss Maud D. Haviland contributes to *British Birds* for June some valuable notes on the breeding habits of the dotterel (*Eudromias morinellus*) on the Yenisei, where she found it nesting both in swampy ground, such as a snipe might choose, and in more typical places, where the ground is dry and stony. Her notes on the simulation of injury made by the brooding birds to draw off intruders from the neighbourhood of the nest are borne out by those of other observers, but we believe her observations on the protective character of the plumage of this species are new. In the same issue Lieut. D. H. Meares records the field-notes of his brother, the late Capt. C. S. Meares, on the nesting habits of this bird in Scotland. While these notes confirm those of Miss Haviland, they supplement them by describing the character of the lining of the nest.

Though we are assured that "after the war" scientific research is to receive substantial aid from the State, there is reason to fear that this aid will be given with qualifications. In other words, the promise is extended only to investigations calculated to further the ends of commerce. Students of what is commonly known as "pure science" will not only not participate in the grants that are to be made, but they may be called upon to subsist upon even smaller doles than were allotted to them in the pre-war days. Our administrators seem incapable of appreciating the fact that "applied science" has its roots in "pure science," so that if these be starved the tree will of necessity be stunted. This much is well brought out by Principal Charnock Bradley in a presidential address delivered in 1915, and printed in the Proceedings of the Royal Physical Society, part ii., vol. xx., which might be read with profit by all concerned in allocating the grants which have been promised.

We are glad to see that in spite of the strenuous times through which they are passing, our Russian Allies still manage to maintain their keen interest in pure science and to continue the publication of those journals which were recently founded with the view of making Russian investigators independent of German channels of publication. Some months ago we noticed the appearance of the first number of the *Revue Zoologique Russe*. The first volume (for 1916) is now completed, and the second (1917) already begun. The contributions range over a great variety of subjects, including systematic zoology, protozoology, cytology, embryology, and experimental zoology, and there is a comprehensive bibliography of current Russian zoological literature, which affords a striking testimony to the activity of Russian workers. Apparently there is no paper shortage in Russia, and the attitude of the authorities towards scientific publication during the war would appear to be very different from what it is in this country. The majority of the memoirs published in the *Revue Zoologique Russe* are naturally written in the Russian language, but there are a few in French or English, and the Russian papers have French or English summaries. The review should therefore appeal to zoologists in many parts of the world, especially as it contains numerous articles of general biological interest. Amongst the latter we may direct attention to a thoughtful paper by Eug. Schultz, written in French, on the application of experimental psychology to the phenomena of morphogenesis. The review is well printed and illustrated, and we hope that the enterprise of the publishers will be rewarded by a wide circulation.

The sixth half-yearly review of the world's production, distribution, and consumption of fertilisers issued by the International Institute of Agriculture in March last is an interesting commentary on the influence of the war upon this important group of industries in the past year. Mineral phosphates, of which the production in 1913 amounted to roughly 6 million tons, and in 1915 to $3\frac{1}{2}$ million tons, fell still further to 2·8 million tons. The decrease as compared with 1915 was due entirely to a great drop in the American production, which for the first time fell far below that of North Africa. The production of superphosphate showed an even more marked decline on account of the difficulties of obtaining supplies of sulphuric acid. The production and export of nitrate of soda reached the high-water mark of three million tons. The data for sulphate of ammonia are naturally incomplete, being limited to Allied and neutral countries. The British production showed a slight increase over that of the previous year, whilst the production of the United States was the largest on record, being practically 50 per cent. higher than in the previous year.

In the report of the Board of Agriculture and Fisheries on the agricultural output of Great Britain (Cd. 6277), made in connection with the Census of Production Act, 1906, the output per person permanently employed in agriculture was ascertained to be 90*l.*, counting the farmer in, or 129*l.* if the occupiers were excluded. A general confirmation of this figure, making due allowance for the rise in prices of agricultural produce since 1906, has been arrived at by Mr. C. S. Orwin, director of the Institute for Research in Agricultural Economics of the University of Oxford, in an analysis of the accounts kept at the institute in 1914–15 of six farms of varied type in widely different parts of the country. The results are summarised in the May issue of the *Journal of the Board of Agriculture,* and show an average net output per man (occupiers excluded) of 169*l.* The proportions of the net output assignable to farmer, labour, and landlord worked out at 47·9, 29·9, and 22·2 per cent. respectively, the variation from farm to farm being surprisingly small. The proportions of net *output* falling to the farmer and landlord are subject to considerable deductions before the net *returns* can be arrived at, and a recalculation of the figures with the view of assessing the latter indicated the average share of each interest on all the holdings to be 40·7 per cent. to the farmer, 39·5 per cent. to labour, and 19·8 per cent. to the landlord.

In a paper read before the Carpenters' Company in London on April 4, published in pamphlet form by the Oxford University Press, Prof. W. Somerville gives an account of forestry in Britain during the last thirty years. Progress, except in increased facilities for education, has been very meagre. "There has been practically no afforestation of fresh land, and what little has taken place has been more than cancelled by the curtailment of the area of previously existing woodlands." Prof. Somerville, believing that national afforestation is essentially a subject for direct action by the State, advocates "the creation of a strong central authority with power to survey and schedule all land that is more suitable for afforestation than for other purposes Experience in the past has unfortunately shown that the Government is apt to seize on any excuse for delaying action, and the country must see to it that directly the survey has revealed a single area afforestation shall proceed." In some cases the capital required for the work would be provided by the Government in the form of a loan. It is not to be expected, however, that private action will do much to clothe with trees the wide stretches of poor pastoral land that constitute the bulk of our afforestable area, and purchase outright by the State would seem in this case to be the only practical procedure, or, as an alternative, the owner might be given the option of granting a perpetual lease to the Government, receiving an annuity as rent. While most of the land would probably be obtainable by mutual agreement, the State must be provided with compulsory powers to be used where necessary.

The fossil fishes in the United States National Museum, Washington, have lately been arranged by Dr. C. R. Eastman, who publishes notes on some of the specimens in a new part of the Proceedings of that museum (vol. lii., pp. 235–304, plates 1–23). American geologists appear now to be satisfied that the fragmentary fish-remains discovered by Dr. C. D. Walcott near Cañon City, Colorado, are really of Ordovician age, as originally claimed by him; and equally old fragments are now recorded both from the Bighorn Mountains of Montana and the Black Hills of South Dakota. Most of the specimens are too much broken for exact determination, and Dr. Eastman has not attempted any new study of them; but he describes a small dermal plate of Astraspis, which he compares with the median dorsal shield of the European Devonian Psammosteus. Among Lower Carboniferous remains from Missouri he identifies an interesting new form of the supposed Chimæroid head-spine, Harpacanthus. Triassic fishes are well represented in the collection, and parts of the trunk apparently of a new species of Lepidotus are described from Utah. The Jurassic and Cretaceous fishes are scarcely noticed, but there are several brief descriptions of American Tertiary fishes illustrated by well-reproduced photographs.

A communication has reached us from Messrs. Bellingham and Stanley, Ltd., in which attention is directed to an interesting point in connection with the design of the Zeiss Abbe refractometer. It has been observed recently by users of the instrument that, owing to want of illumination, measurements cannot be made for liquids having a refractive index greater than 1·52. It is plainly stated in the Zeiss catalogue that the Abbe refractometer may be used for the measurement of refractive indices from 1·30 to 1·7, and that the liquid to be examined is enclosed between two prisms of flint glass. In the instrument as actually constructed it appears that a crown glass prism of low refractive index ($N_D = 1{\cdot}52$) has been substituted for the dense flint prism ($N_D = 1{\cdot}75$) used at first as the lower or illuminating prism. The contact surface of this prism is left unpolished, so as to scatter the light entering the liquid film. The process of wiping the surface to remove the liquid which has been examined results in the removal of the thin sharp walls left by the abrasive, and the surface approximates to a polished face. When this is the case very little light can fall on the contact surface of the liquid and the upper prism at angles greater than the critical angle unless the lower prism has a refractive index greater than that of the liquid under test; for it is only when this condition is satisfied that light entering the liquid is bent away from the normal. Several such instruments have been rendered serviceable for the measurement of liquids of refractive index as high as 1·70 by replacing the crown illuminating prism by a suitable dense flint prism In using the refractometer for solid and plastic bodies it would be more convenient if the prism box were designed to open away from the operator.

Engineering for June 8 contains an illustrated account of the reconstruction of the Union Pacific railroad bridge at Omaha. The new bridge consists of four through Pratt-riveted chord spans, 246 ft long, one through riveted span 130 ft. long, and two through Pratt-riveted spans 120 ft. long, four deck-plate girders 67 ft. long, and two deck-plate girders 50 ft. long, for two tracks. The total length of the bridge is 1722 ft., excluding approaches; the total weight of the new bridge is about 11,250,000 lb., as against 5,500,000 lb. in the old bridge replaced. The new bridge rests on the original piers, and, in order to interfere with traffic as little as possible, the following method of construction was adopted. The original piers were extended on the up- and down-stream sides by temporary timber piers. The new spans were erected complete on the temporary down-stream piers. The bridge was closed for traffic shortly after 11 a.m. on December 23, 1916, and by twelve o'clock the old spans had been rolled on to the temporary up-stream piers. The new spans were then rolled into position on the piers, this work being completed by 4 p.m. Track crews then closed up the tracks, and signalmen bonded the joints so that automatic signals were restored to operation immediately. Traffic over the bridge was restored at 9.39 p.m. The design and construction of the new bridge have been handled under the direction of Mr. E. E. Adams, consulting engineer of the Union Pacific system.

The valuable scientific work carried out by Australian men of science is conspicuously shown in the thirty-ninth volume of the Transactions of the Royal Society of South Australia (1915). More than 800 pages, illustrated by seventy plates, are occupied by papers in various departments of science. Most of the shorter papers deal with zoology or botany, but geology and astronomy are also represented. Among the longer papers are notes on the "Fishes of the South Australian Government Trawling Cruise, 1914," by E. R. Waite and A. R. McCulloch; an account of the "Natives of Mailu, Papua," by Dr. B. Malinowski; and "Scientific Notes on an Expedition into the North-western Regions of South Australia," by members of the expedition. The report of the society also records its activities in the popularising of scientific studies by lectures, exhibitions, and excursions, in the discovery of new animals and plants, and in the preservation of Australian fauna and flora. The committee and members of the society may be congratulated on their fine record.

A treatise on "Gyrostatics and Rotational Motion" by Prof. Andrew Gray is in the press, and will be published by Messrs. Macmillan and Co., Ltd., as soon as present circumstances permit. The work aims at giving a complete account of tops and gyrostats, gyrostatic action in machinery, and gyrostatic appliances. The general theory is fully dealt with, but an attempt has also been made to treat all the more important special problems by direct reference to first principles in each case Mathematical difficulties are not avoided. but the relative importance of physical ideas has been kept in view and enforced by careful descriptions of the latest practical gyrostatic inventions, so far as the public service permits.

Messrs. O. Doin et Fils, of Paris, have begun the publication of a series of handy volumes entitled "Bibliothèque de Biologie Générale," under the editorship of Prof. M. Caullery. Up to the present two works have been issued, but volumes have been arranged for dealing respectively with Les Phénomènes vitaux; La Cellule (Morphologie et Physiologie), Prof. M. Henneguy; Les Formes larvaires et les Métamorphoses, Prof. C. Pérez; La Reproduction asexuée; La Régénération et la Greffe, E. Bordage; La Sexualite et la Parthénogénèse; Les Corrélations organiques et l'Individualité, E. Guyénot; L'Irritabilité et les Tropismes; Les Mutations matérielles dans les êtres vivants (aliment et milieux nutritifs); Les Mutations énergiques dans les êtres vivants (luminosité, chaleur, électricité, etc.); La Biologie des Pigments, Prof. J. Cotte; Ethnologie et Organisation; Commensalisme, Symbiose, Parasitisme; Les Milieux biologiques marins, P. M. de Beauchamp; La Biologie des eaux douces; Les principaux faciès biologiques terrestres; La Concurrence vitale; L'Hérédité; La Variation; L'Hybridation; L'Espèce; L'Adaptation; La Phylogénie; and Les Théories évolutionnistes.

The Rede lecture. on "Science and Industry: the Place of Cambridge in any Scheme for their Combination," which was delivered on June 9 by Sir R. T. Glazebrook, and is abridged elsewhere in this issue, is to be published immediately by the Cambridge University Press.